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IS 14528 (1998): Tube end Straight Reducers for Oil-hydraulic Couplings [PGD 17: Fluid Power Fittings, Hoses and Hose Assemblies]

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Indian Standard

TUBE END STRAIGHT REDUCERS FOR OIL-HYDRAULIC COUPLINGS

ICS 23.100.30

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

March 1998 **Price Group 2**

Fluid Power Fittings, Hoses and Hose Assemblies Sectional Committee, PE 17

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Fluid Power Fittings, Hoses and Hose Assemblies Sectional Committee had been approved by the Production Engineering Division Council.

In fluid power systems, power is transmitted and controlled through a fluid (liquid or gas) under pressure within a circuit. Tube end straight reducers for oil-hydraulic couplings is one of the fittings used in fluid power systems.

This standard has been formulated based on the current manufacturing practices prevalent in the fluid power industry.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2:1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

TUBE END STRAIGHT REDUCERS FOR OIL-HYDRAULIC COUPLINGS

1 SCOPE

This standard specifies the dimensions, material and other requirements for tube end straight reducer used in oil-hydraulic systems.

2 REFERENCES

The following Indian Standards contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	*Title*
2643 (Part 1) : 1975	Dimensions for pipe threads for fastening purposes : Part 1 Basic profile and dimensions (*first revision*)
3618:1966	Phosphate treatment of iron and steel for protection against corrosion
4431:1978	Carbon and carbon manganese free cutting steel
8805 (Part 1) : 1978	General requirement for ferrule type couplings used in oil hydraulic system:Part 1 General

3 DIMENSIONS

The dimension of tube end straight reducers for oil-hydraulic couplings shall be as given in Tables 1 and 2.

4 MATERIAL

The tube end straight reducers for oil-hydraulic couplings shall be manufactured from steel conforming to Designation 14C14S14 of IS 4431 or any other steel as agreed to between the user and the manufacturer.

5 SURFACE PROTECTIONS

The tube end straight reducer bodies shall be phosphated to Class A2 of IS 3618 unless otherwise agreed to between the user and the manufacturer.

6 GENERAL REQUIREMENTS

For details not covered in this standard reference shall be made to IS 8805 (Part 1).

7 DESIGNATION

Tube end straight reducer shall be designated by male and female thread size and number of this standard.

Example:

A tube.end straight reducer with male thread G1/4 and female thread G1/8 conforming to this standard shall be designated as:

Tube End Straight Reducer IS 14528 G1/4 × G1/8

8 MARKING

8.1 Tube end straight reducer shall be marked with the designation and manufacturer's name or trade-mark.

8.2 BIS Certification Marking

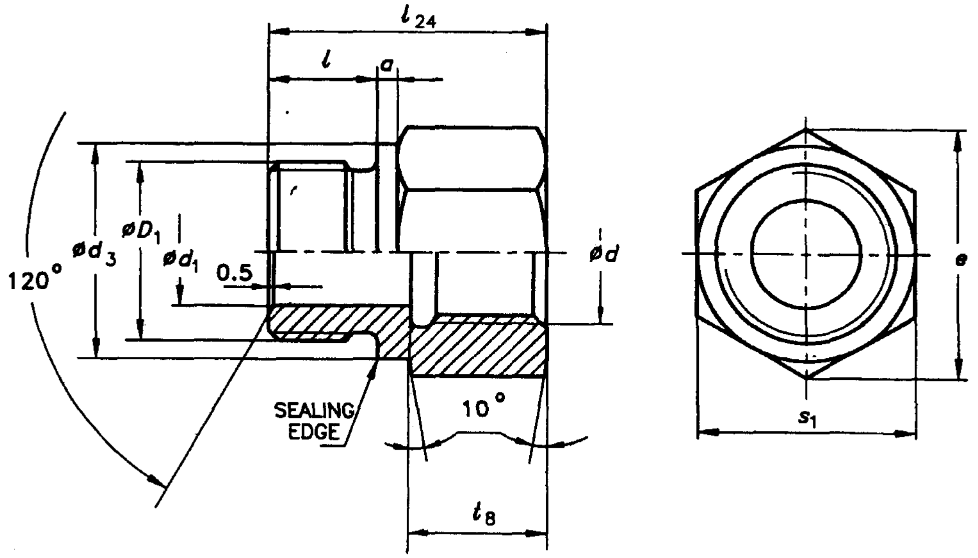
The product may also be marked with Standard Mark.

8.2.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

Table 1 Dimensions for Tube End Straight Reducer

(*Clause* 3)

All dimensions in millimetres.



Male Thread ϕD_1 1)	Female Thread ϕd 1)	ϕd_1	ϕd_3 -0.4	a *Min*	l ±0.2	l_{24} ±0.3	l_8	e ≈	s_1 2)
G 1/8	G 1/4	4	14	1.5	8	31	17	21.9	19
G 1/8	G 3/8	4	14	1.5	8	32	17	27.7	24
G 1/4	G 1/8	5	18	2	12	28	12	21.9	19
G 1/4	G 3/8	5	18	2	12	36	17	27.7	24
G 1/4	G 1/2	5	18	2	12	40	20	31.2	27
G 1/4	G 3/4	5	18	2	12	43	22	41.6	36
G 3/8	G 1/4	8	22	2.5	12	36	17	25.4	28
G 3/8	G 1/2	8	22	2.5	12	41	20	31.2	27
G 3/8	G 3/4	8	22	2.5	12	44	22	41.6	36
G 1/2	G 3/8	12	26	3	14	36	17	31.2	27
G 1/2	G 3/4	12	26	3	14	46	22	41.6	36
G 1/2	G 1	12	26	3	14	49	24.5	47.3	41
G 1/2	G 1 1/4	10	26	3	14	53	26.5	63.5	55
G 3/4	G 1/2	16	32	3	16	41	20	36.9	32
G 3/4	G 1	16	32	3	16	51	24.5	47.3	41
G 3/4	G1 1/4	16	32	3	16	55	26.5	63.5	55
G 3/4	G1 1/2	16	32	3	16	57	28.5	69.3	60
G 1	G 3/4	20	39	3	18	47	22	47.3	41
G 1	G1 1/4	20	39	3	18	57	26.5	63.5	55
G 1	G1 1/2	20	39	3	18	59	28.5	69.3	60
G 1 1/4	G1	25	49	3	20	52	24.5	57.7	50
G 1 1/4	G1 1/2	25	49	3	20	60	28.5	69.3	60
G 1 1/2	G1 1/4	32	55	3	22	58	26.5	63.5	55

NOTE — For details of sealing end and under cut stud ends Type A with sealing washer or Type B without sealing washer refer to Table 4 of IS 8805(Part 1).

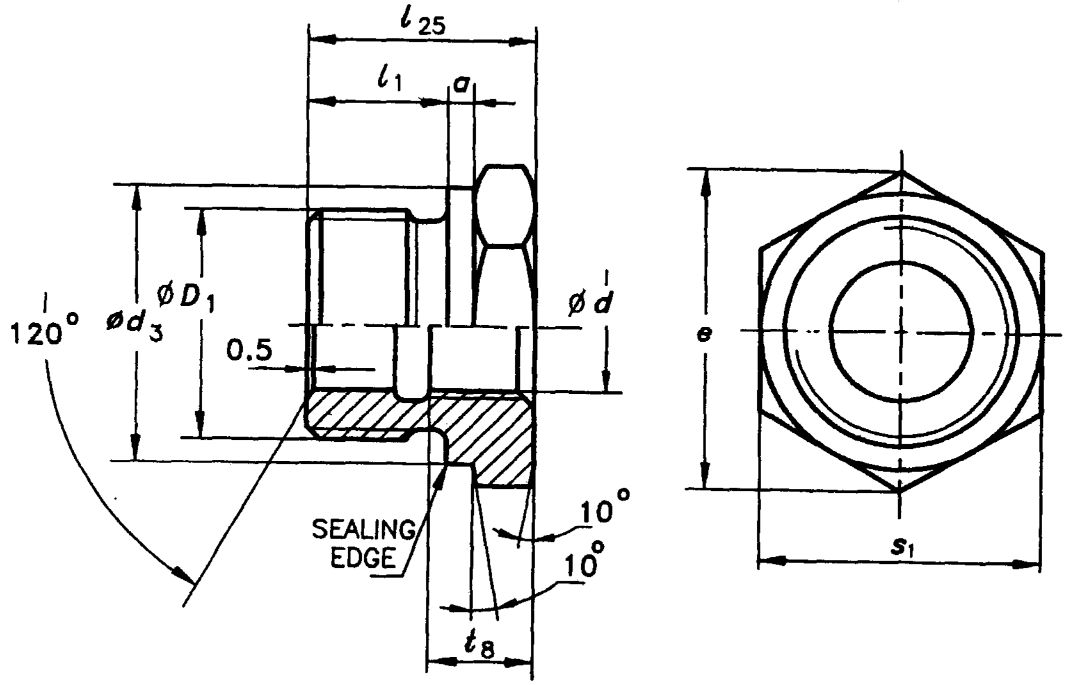
1) Threads conforming to Class A of IS 2643 (Part 1).

2) Tolerances on s_1 (i) h_{13} for 's_1' up to 32 mm
(ii) h_{14} for 's_1' above 32 mm.

Table 2 Dimensions for Tube End Straight Reducer

(*Clause* 3)

All dimensions in millimetres.



Male Thread ϕD_1[1]	Female Thread ϕd[1]	ϕd_3 -0.3	l_1 ±0.2	a *Min*	t_8	l_{25} ±0.3	e ≈	s_1[2]
G 3/8	G 1/8	22	12	2.5	8	22.5	25.4	22
G 1/2	G 1/8	26	14	3.0	8	24	31.2	27
G 1/2	G 1/4	26	14	3.0	12	24	31.2	27
G 3/4	G 1/4	32	16	3.0	12	26	36.9	32
G 3/4	G 3/8	32	16	3.0	12	26	36.9	32
G 1	G 1/4	39	18	3.0	12	29	47.3	41
G 1	G 3/8	39	18	3.0	12	29	47.3	41
G 1	G 1/2	39	18	3.0	14	29	47.3	41
G1 1/4	G 1/2	49	20	3.0	14	32	57.7	59
G1 1/4	G 3/4	49	20	3.0	16	32	57.7	50
G1 1/2	G 1/2	55	22	3.0	14	36	63.5	55
G1 1/2	G 3/4	55	22	3.0	16	36	63.5	55
G1 1/2	G 1	55	22	3.0	18	36	63.5	55

NOTE — For details of sealing end and under cut stud ends Type A with sealing washer or Type B without sealing washer refer to Table 4 of IS 8805 (Part 1).

[1] Threads conforming to Class A of IS 2643 (Part 1).

[2] Tolerances on s_1 (i) h_{13} for 's_1' up to 32 mm
(ii) h_{14} for 's_1' above 32 mm.

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Amend No.	Date of Issue	Text Affected

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